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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,745	09/24/2001	Mark G Luehrmann	8016-547	3350

7590 02/18/2004

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Indianapolis, IN 46204-5137

EXAMINER

VAN PELT, BRADLEY J

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 02/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,745

Applicant(s)

LUEHRMANN ET AL.

Examiner

Bradley J Van Pelt

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 26, 27, 29, 31, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Justinien et al. (USPN 3,161,185) in view of Fangman (USPN 3,479,929).

Justinien et al. disclose a engine cylinder piston and connecting rod assembly comprising: a piston (P); a connecting rod (14); a piston pin (8) constructed and arranged for connecting together said piston and said connecting rod, said piston pin being subjected to a load during reciprocation of said connecting rod, resulting in piston pin deflection (column 3, lines 42); a bore (ring 14 has bore) for receipt of said piston pin, said connecting rod having a first end and an opposite end, said bore extending between said first end and said second end, a first profiled bore section adjacent said first end and a second profiled bore section adjacent said second end, each of said first and second profiled bore sections being constructed and arranged with a size, shape, and location so as to approximate the deflection shape of said piston pin under load (see column 3, lines 40-45);

First and second profiled bore sections have a curved surface;

First and second profiled bore sections are shaped with a plurality of end-to-end frustoconical sections.

Justinien et al. do not show the bore in contact with the pin is integral with the connecting rod.

Fangman et al. show a bore (top of 15) receiving the pin (17) is integral with the connecting rod.

To modify the apparatus of Justinien et al. so as to provide the bore in direct contact with the pin in the connecting rod would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the teachings of Fangman that such an arrangement decreases the number of parts, decreasing cost of maintenance.

3. Claims 28, 30, 33, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Justinien et al. in view of Fangman, as applied to claims 26, 27, 29, 31, 32, and 34 in view of Tools Engineers Handbook, 1449 McGraw-Hill Book Company, Pages 1228-1229.

The above reference combination discloses all of the instantly claimed invention except a coating surface is applied to said bore.

The Tools Engineers Handbook, 1449 McGraw-Hill Book Company, Pages 1228-1229, teaches the application of a coating to metallic surfaces.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the bore of Nolte with a coating surface, as taught by Tools Engineers Handbook, for the purpose of increasing the wear resistance.

Response to Arguments

4. Applicant's arguments with respect to the Nolte reference have been considered but are moot in view of the new ground(s) of rejection.

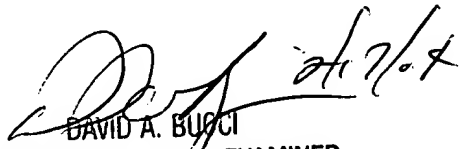
Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley J Van Pelt whose telephone number is 703.305.8176. The examiner can normally be reached on M-Th 7:00-4:30, 2nd F 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Bucci can be reached on 703.308.3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bjvp


DAVID A. BUCCI
SUPERVISORY PATENT EXAMINER
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